Design Observational cohort study
Setting British Olympic network
Patients (or Participants) Men’s and Women’s Great Britain boxing, skeleton and hockey and elite women’s rugby
Interventions (or Assessment of Risk Factors) Baseline SMBA and Y-balance measures were taken as part of a bi-annual squad profiling battery.

Concussion was diagnosed by one of the team physiotherapists or sports medicine consultants. Testing was repeated within three days of initial injury (where possible) and upon clearance for return to play following completion of the return-to-play protocol.

Main Outcome Measurements Postural sway (SMBA) and the Y-balance test

Results To date five concussions have been recorded across all groups, demonstrating a mean percentage reduction in postural sway of 18.3% (87.2 SD = 11.3 - 71.2 SD = 23.7). There was no significant difference in baseline postural sway between the concussed and non-concussed groups (p=0.204).

For Y-balance, a 0.6% drop in return to play (RTP) reach was recorded in the concussed group when compared to group baseline scores (p=0.852, mean baseline- 96.3cm SD = 2.3, RTP 95.7cm SD = 3.94).

Conclusions This study highlights a trend towards a residual reduction in somatosensory function upon return to play following concussion, despite normalisation of symptoms and SCAT5 testing. Despite this not being a statistically significant change, the study offers a promising start to warrant further investigation of somatosensory function and its relationship with increased MSK injury rates.